WHAT IS CLAIMED IS:

1.   A computer program product for editing a file describing a circuit design so that HDL code in the file is compatible with a new programmable logic integrated circuit (IC), the computer program product comprising:

    code for locating black box declarations and black box instances in the file;

    code for gathering information about the black box declarations and instances;

    code for editing the black box declarations to create equivalent black declarations that are compatible with the new programmable logic IC using the information;

    code for editing the black box instances to create equivalent black box instances that are compatible with the new programmable logic IC using the information; and

    a computer readable medium for storing the codes.

2.   The computer program product defined in claim 1 further comprising:

    code for generating a warning if an equivalent black box compatible with the new programmable logic IC cannot be located for one of the black box instances or declarations.

3.   The computer program product defined in claim 1 further comprising:

    code for automatically connecting any dangling signals or unused ports in the equivalent black box instances to pre-selected terminals.

4.   The computer program product defined in claim 1 wherein the code for gathering the information about the black box declarations further comprises code for determining a number of input ports and output ports for each of the black box declarations.

5.   The computer program product defined in claim 4 wherein the code for gathering the information about the black box instances further comprises code for identifying input signals coupled to each input port of the black box instances, and code for identifying output signals coupled to each output port of the black box instances.

6.   The computer program product defined in claim 1 wherein the code for gathering the information about the black box declarations further comprises code for determining a function performed by each of the black box declarations.

1   7.   The computer program product defined in claim 1 wherein the

2 computer program product comprises Tcl code that is executed as a script sourced through an

3 executable in a synthesis tool.

1   8.   The computer program product defined in claim 1 further comprising:

2   code for stopping and restarting the codes that implement a design conversion

3 process for the circuit design without having to reparse the design conversion process from

4 the beginning; and

5   code for saving a state of the design conversion process to memory.

1   9.   The computer program product defined in claim 1 further comprising:

2   code for generating a detailed report that indicates where the black box

3 declarations and instances were found in the code and the equivalent declarations and

4 instances that the black boxes were replaced with.

1   10.   The computer program product defined in claim 1 further comprising:

2   code for converting timing constraints associated with the circuit design to be

3 compatible with the new programmable logic IC.

1   11.   The computer program product defined in claim 1 wherein the code for

2 locating black box declarations and black box instances in the file further comprises code for

3 identifying blocks of code that do not have body definitions as black box declarations.

1   12.   A method for editing a file describing a circuit design so that the file is

2 compatible with a new programmable logic integrated circuit (IC), the computer program

3 product comprising:

4   identifying black box declarations in the file;

5   identifying black box instances in the file;

6   collecting information about the black box declarations and instances;

7   editing the black box declarations to create equivalent black declarations that

8 are compatible with the new programmable logic IC using the information; and

9   editing the black box instances to create equivalent black box instances that

10 are compatible with the new programmable logic IC using the information.

1   13.   The method defined in claim 12 further comprising:

2   generating a warning if an equivalent black box compatible with the new

3   programmable logic IC cannot be located for one of the black box instances or declarations.

1   14.   The method defined in claim 12 further comprising:

2   automatically connecting any dangling signals or unused ports in the

3   equivalent black box instances to pre-selected terminals.

1   15.   The method defined in claim 12 wherein collecting the information

2   about the black box declarations further comprises determining a number of input ports and

3   output ports for each of the black box declarations.

1   16.   The method defined in claim 15 wherein collecting the information

2   about the black box instances further comprises identifying input signals coupled to each

3   input port of the black box instances, and identifying output signals coupled to each output

4   port of the black box instances.

1   17.   The method defined in claim 12 wherein collecting the information

2   about the black box declarations further comprises determining a function performed by each

3   of the black box declarations.

1   18.   The method defined in claim 12 wherein identifying black box

2   declarations in the file further comprises identifying blocks of code that do not have body

3   definitions.

1   19.   The method defined in claim 12 further comprising:

2   converting timing constraints associated with the circuit design to be

3   compatible with the new programmable logic IC.

1   20.   The method defined in claim 12 further comprising:

2   generating a detailed report that indicates where the black box declarations

3   and instances were found and the equivalent declarations and instances that the black boxes

4   were replaced with.